

What we claim is:

1. An elongated protective guard for the gap of a hinged door when open,
said guard comprising
 - a) first and second mounting elements, each element having a generally
5 planar surface terminating at first and second longitudinally extending edges, one edge
forming a flange having a concave semi-circular seat, and a contact surface comprising a
planar portion and a convex semi-circular portion, one of the mounting elements adapted
to be attached to the edge of the door along the gap and the second mounting element
adapted to be attached to a doorjamb or a door frame;
 - 10 b) at least one additional element adjacent each mounting element, having a
generally planar surface terminating at first and second longitudinally extending edges,
each edge forming a flange having a concave semi-circular seat, and a contact surface
comprising a planar portion and a convex semi-circular portion;
 - c) a C- clamp pivotally joining two adjacent elements together, said clamp
15 comprising a base and two arms, each arm terminating in a semi-circular bead projecting
toward the corresponding bead on the other arm, the semi-circular seat of the flanged
edge of one of the mounting elements pivotally engaging the bead of one arm of the C-
clamp, and the semi-circular seat of one of the edges of said at least one other element
pivotally engaging the bead of the other arm whereby the contact surface of each
20 mounting element is in contact with a corresponding contact surface of the at least one
other adjacent element.

2. The guard according to claim 1 wherein the sum of the radii of the outer curved portion of the contact surfaces is substantially constant throughout the range of pivotal rotation of the elements.

5 3. The guard according to claim 1 wherein the generally planar surfaces of each of the adjacent elements form an angle less than 180° with respect to each other element when the elements are fully extended with the planar contact surfaces touching one another.

10 4. The guard according to claim 3 wherein the generally planar surfaces form an angle of not greater than about 174° .

5. The guard according to claim 1 wherein the planar surface of each mounting element includes means for securing the guard to a doorjamb or to a surface of
15 a door.

6. The guard according to claim 5 wherein the securing means is selected from the group consisting of Velcro fasteners, with a first fastener strip adapted to be mounted on said doorjamb or frame, and a second fastener strip adapted to be mounted
20 on a door surface for engagement with the first strip, mounting holes in the element for securing to the door or the frame with threaded fasteners or nails, and adhesives.

7. The guard according to claim 1 wherein the at least one additional element is a transition element wherein one flange extends in the opposite direction from the other flange with respect to the generally planar surface of the element.

5 8. The guard according to claim 1 further including a channel element having a generally planar surface terminating at first and second longitudinally extending edges, each edge forming a flange having a concave semi-circular seat facing the seat on the other flange, and a contact surface comprising a planar portion and a convex semi-circular portion.

10 9. The guard according to claim 8 further including means for precluding the elements from collapsing together, said means comprising a spring joined to at least one of the elements for biasing the elements into an arc.

15 10. The guard according to claim 1 wherein the elongated length is at least about 36" and wherein the guard is adapted to be mounted along the vertical edge of the door.

20 11. The guard according to claim 9 wherein the at least one spring is fastened to a channel element, the body portion of which is sufficiently thick to receive and hold at least one fastener.

12. The guard according to claim 8 wherein each of the two mounting elements is pivotally joined to a transition element, each transition element is pivotally joined to one channel element, and each channel element is pivotally joined to another channel element.

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13. A hinged door assembly comprising a door and a doorjamb, the door joined to the jamb by at least one hinge for pivotal movement between an open and a closed position, the assembly further including a protective guard over at least a portion of the opening between the door and the jamb when the door is in the open position, the protective guard comprising

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a) a first element having a generally planar surface and mounted along the vertical edge of the door, said element having first and second longitudinally extending edges, the first edge forming a flange having an inner semi-circular seat, and an outer contact surface having a planar portion and a curved portion;

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b) a second element mounted vertically on the doorjamb and having a generally planar surface having first and second longitudinally extending edges, the first edge forming a flange having an inner semi-circular seat, and an outer contact surface comprising a planar portion and a curved portion;

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c) at least one additional element adjacent each mounting element, having a generally planar surface terminating at first and second longitudinally extending edges, each edge forming a flange having an inner semi-circular seat, and a contact surface comprising a planar portion and a semi-circular portion; and

d) a C-clamp comprising a base and two arms, each arm terminating in a semi-circular bead projecting toward the corresponding bead on the other arm, the semi-circular seat of the first edge of one element pivotally engaging the bead of one arm of the clamp, and the semi-circular seat of the first edge of an adjacent element pivotally engaging the bead of the other arm, whereupon the outer contact surfaces of the flanges of adjacent mounting elements are in pivoting contact with one another.

14. The assembly according to claim 13 wherein the first and second elements are mounting elements, and each mounting element is joined to a transition element having a second edge that forms a flange which extends in the opposite direction from the first flange with respect to the generally planar surface of the element, the flange along the second edge having an inner semi-circular seat, and an outer contact surface comprising a planar portion and a curved portion.

15. The assembly according to claim 14 wherein the planar surface of the mounting elements includes means for securing the guard to a doorjamb or to the planar surface of the door opposite the hinge.

16. The assembly according to claim 14 wherein the guard further includes one or more channel elements pivotally joined to the transition element or to one another, spanning the gap between the door when open and the doorjamb, and a C-clamp pivotally joining adjacent elements together.

17. The assembly according to claim 13 wherein the sum of the radii of the outer curved portion of the contact surfaces of all of the elements is substantially constant throughout the range of rotation of the elements.

5 18. A method of preventing injuries upon closing of a hinged door comprising attaching a protective cover on the door and on a doorjamb on the side of the of the door opposite the hinges, said protective cover comprising a plurality of elongated elements pivotally joined to form an arc over the gap, the cover including

a) a first mounting element having a generally planar surface mounted along
10 the vertical edge of the door, said element having first and second longitudinally extending edges, the first edge forming a flange having an inner concave seat, and an outer contact surface comprising a planar portion and a convex curved portion;

b) a second mounting element mounted vertically on the doorjamb and
having a generally planar surface having first and second longitudinally extending edges,
15 the first edge forming a flange having an inner concave semi-circular seat, and an outer contact surface comprising a planar portion, and a convex curved portion;

c) at least one additional element adjacent a mounting element, having a generally planar surface terminating at first and second longitudinally extending edges, each edge forming a flange having a concave semi-circular seat, and a contact surface
20 comprising a planar portion and a convex semi-circular portion, the contact surface being in contact with the corresponding contact surface of the mounting element;

d) a C-clamp comprising a base and two arms, each arm terminating in a semi-circular bead projecting toward the corresponding bead on the other arm, the semi-circular seat of the first edge of one element pivotally engaging the bead of one arm of the clamp, and the semi-circular seat of the first edge of an adjacent element pivotally engaging the bead of the other arm.

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19. The method according to claim 18 wherein the planar surface of the mounting elements includes means for securing the guard to a doorjamb or to the surface of a door.

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20. The method according to claim 19 wherein the guard further includes one or more channel elements pivotally joined to the second element, spanning the gap between the door when open and the doorjamb.